

SCIENCE & EDUCATION Impact

Benefits from USDA/Land-Grant Partnership

Don't Waste a Great Opportunity

Adding to trash

Decreasing landfill space. Expensive waste disposal costs. Increased concern about waste contaminating natural resources. Land-Grant universities are leading the nation's effort in addressing these issues by teaching people about recycling home and yard waste as well as devising new uses for agricultural waste products.

Payoff

- **One plant's waste is to another plant's taste.** During harvest and processing, lots of unusable plant parts have to be thrown away. Land-Grant university scientists and extension specialists are finding important uses for these products. Researchers at **Oregon State** have helped find uses for 6,000 tons of waste from alfalfa seed production—Oregon mushroom growers are using the waste in their compost mix and pay only for hauling of the waste, while alfalfa seed growers save \$60,000 annually in disposal costs. **California** has recycled more than 1.2 million tons of plant waste into compost for various crops.
- **Don't be crude.** In one **Texas** county, people living in rural areas were dumping used oil along fences and behind barns because there was no where to take their oil. In response, the county's 4-H youth created the "Don't be Crude" program, where they partnered with a recycling company to set up storage tanks in key parts of the county. They distributed special trays farmers could use when changing oil on their equipment and then could easily drain into the recycle bins. In 1998, more than 2,100 gallons of oil were collected and used to make asphalt for Texas roads.
- **Litter is good.** Disposing of poultry litter (manure and bedding material) is a big problem for producers. If not disposed of properly, nitrogen and phosphorus in litter can contaminate ground and surface water. **Delaware** researchers discovered that altering the birds' diets can reduce phosphorus levels by up to 80 percent in the litter, making it a suitable fertilizer for crops. **Cornell** research has shown similar results. **Auburn** researchers

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found that producers must wait 18 to 20 days for bacteria to die naturally before using fresh litter as a fertilizer. **Purdue** Extension educators taught farmers to use poultry waste on nutrient-deficient areas. As a result, one farmer completely replaced commercial fertilizer with poultry waste on his pasture, saving \$7,000 in one year. **Arkansas, Georgia, Maryland, South Carolina, Tennessee** and **Virginia Tech** researchers are also helping producers find other uses for the litter.

- **Teaching the three R's -- Recycle, Recycle and Recycle.** The Land-Grant system educates both consumers and industry to recycle materials instead of throwing them away and taking up precious landfill space. As a result of an **Idaho** Extension program, six rural counties increased the amount of collected recyclable materials from 41,000 pounds to 147,000 pounds monthly. **Wisconsin** Extension specialists helped more than 200 industries turn waste into recycled products, including one company that has reduced its waste by 20 percent by recycling cardboard. After attending a **Delaware** Extension recycling educational program, 85 percent of the participants said they recycled compared to their response of 15 percent before taking the workshop.
- **The paper chase.** **Wisconsin** scientists found that sludge from a local paper mill improved the nutrient and moisture-holding capacity of area soils. Area farmers used 161,000 tons of the sludge, saving \$322,000 by not having to buy more expensive conventional fertilizers. **Louisiana** Extension specialists found that the ash/lime/fiber waste mixture from a local paper mill significantly increased the nutrients of Louisiana's acidic, low-calcium soils, offering producers a low-cost alternative to conventional fertilizers. **Penn State** scientists have a patented technology that uses recycled paper as mulch to establish turf grass in lawns. Since 1997, nearly 16,000 tons of paper have been recycled into the mulch, which has generated more than \$3.5 million into the economy.

- **Pesticide plastic makes perfect.** Many agricultural pesticides come in 1 and 2.5 gallon plastic containers. Once cleaned, the containers can be recycled into new pesticide containers and other items. Most state extension services offer free collection sites for producers, saving money and landfill space. For example, in 1998, **Nebraska** Extension collected and recycled more than 134,100 plastic pesticide containers into 49 tons of recyclable plastic.
- **Compost is the mostest.** It's estimated that yard waste takes up more space in landfills than anything else. In fact, many states prohibit depositing yard waste in landfills. In response, Land-Grant universities are educating homeowners about composting their leaves and grass cuttings instead of bagging them up. One **Georgia** Extension agent worked with a local business to compost trees, stumps and yard waste into 10,000 cubic yards of inexpensive mulch, which generates annual revenues of \$160,000. **Indiana, Florida, Maine** and **Tennessee** also have successful composting education programs.



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